1989 *Journal of Propulsion and Power* Index

How to Use the Index

In the Subject Index, pages 759–762, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index. The Author Index, page 763, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 764–767, lists all papers by their unique code numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the "CP" or conference volume number if the paper was published in a bound collection of meetings papers. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 1989, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

Multi-Stage Compressor Airfoil Aerodynamics: Part II–Airfoil Boundary-Layer Analysis B89-074
Multi-Stage Compressor Airfoil Aerodynamics: Part I-Airfoil Potential Flow Analysis B89-073
Kinetic Energy Equations for the Average-Passage Equation System B89-038

Fuels and Fuel Systems

Role of Aluminum-Magnesium Alloys in Humid Aging of Composite Solid Propellants B89-066

General Aviation

Design and Test of a Propfan Gear System B89-015

Noise

Effects of Wind-Tunnel Wall Absorption on Acoustic Radiation of Propellers B89-010

Performance

J85 Surge Transient Simulation B89-060
Effects of Inlet Pressure Fluctuations on Axial Flow Compressors B89-012

Powerplant Integration

Flight Test of the F100-PW-220 Engine in the F-16 B89-097
Improved Compressor Performance Using Recessed Clearance (Trenches) B89-075
STOVL Engine/Airframe Integration B89-019
Design and Test of a Propfan Gear System B89-015

Propeller and Rotor Systems

Design and Test of a Propfan Gear System B89-015

Structural Design (Including Loads)

Composite Mechanics for Engine Structures B89-035

Structural Materials

Composite Mechanics for Engine Structures B89-035

Testing, Flight and Ground

Flight Test of the F100-PW-220 Engine in the F-16 B89-097

Energy

Alternate Fuels

Role of Aluminum-Magnesium Alloys in Humid Aging of Composite Solid Propellants B89-066

Flywheels

Combustor Air Flow Prediction Capability Comparing Several Turbulence Models B89-036

Laser Integration/Systems

Autoignition of H_2-Air: The Effect of NO_x Addition B89-062

Magnetohydrodynamic Power Generation

Electrical Nonuniformities in Commercial-Scale Slagging Magnetohydrodynamic Channels B89-113
Dimensionless Relations for Predicting Arc Size in a Generator B89-061
Magnetohydrodynamic Heat Transfer in Two-Phase Flow with Temperature-Dependent Transport Properties B89-058
Experiments with a Radial Outflow Disk Generator B89-057
High Enthalpy Extraction from a Helium-Driven Disk Magnetohydrodynamic Generator B89-056
Absorption Cross-Section Data for Potassium Doublet Under MHD Conditions B89-040
Electrical Characteristics of a Noble Gas Diagonal MHD Channel B89-037
Finite Element Electrical Model for Diagonally Connected MHD Generators B89-034

Microwaves

Earth-to-Satellite Microwave Power Transmission B89-115
Conjugate Heat Transfer at a Wall With Nonuniform Properties B89-096

Reciprocating Machinery

Operating Characteristics of a Hydrogen-Argon Plasma Torch for Supersonic Combustion Applications B89-021

Rotating Machinery

Shaft Flexibility Effects on Aeroelastic Stability of a Rotating Bladed Disk B89-110
Vibration Analysis of Rotor Systems Using Reduced Subsystem Models B89-094
J85 Surge Transient Simulation B89-060
Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction; Part II–Results B89-050
Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction; Part I–Methodology B89-049
Kinetic Energy Equations for the Average-Passage Equation System B89-038
Active Suppression of Aerodynamic Instabilities in Turbomachines B89-032
Rotor-Wake Influence on Axial-Compressor-Stator Boundary Layers B89-014
Effects of Inlet Pressure Fluctuations on Axial Flow Compressors B89-012
Redistribution of an Inlet Temperature Distortion in an Axial Flow Turbine Stage B89-011

Solar Power

Solar Dynamic Power for the Space Station B89-114

Fluid Dynamics

Aeroacoustics

Propagation of Weak Compression Waves in Nonuniform Channel Flows B89-025
Effects of Wind-Tunnel Wall Absorption on Acoustic Radiation of Propellers B89-010

Boundary Layers and Heat Transfer—Laminar

Influence of Vane/Blade Spacing and Injection on Stage Heat-Flux Distributions B89-033

Boundary Layers and Heat Transfer—Turbulent

Conjugate Heat Transfer at a Wall With Nonuniform Properties B89-096
Dimensionless Relations for Predicting Arc Size in a Generator B89-061
Influence of Vane/Blade Spacing and Injection on Stage Heat-Flux Distributions B89-033
Freestream Turbulence Effect on Turbine Airfoil Heat Transfer B89-013

Boundary-Layer Stability and Transition

Experimental Investigation of Shock Wave/Boundary-Layer Interactions in an Annular Duct B89-055
Numerical Modeling of the Flow Discharge in MPD Thrusters B89-009

Computational Fluid Dynamics

Theoretical Evaluation of Laser-Sustained Plasma Thruster Performance B89-090
Mixing Augmentation Technique for Hypervelocity Scramjets B89-082
Efficient Computational Tool for Ramjet Combustor Research B89-069
Numerical Simulation of Flow Through a Two-Strut Scramjet Inlet B89-054
Conformal Mapping and Orthogonal Grid Generation B89-052
Navier-Stokes Computations of Two- and Three-Dimensional Cascade Flowfields B89-051
Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction; Part II--Results B89-050
Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction; Part I--Methodology B89-049
Combustor Air Flow Prediction Capability Comparing Several Turbulence Models B89-036
Acoustic-Vortex Interactions and Low-Frequency Oscillations in Axisymmetric Combustors B89-027
Numerical Predictions of a Rearward-Facing-Step Flow in a Supersonic Combustor B89-026

Hydrodynamics

Conformal Mapping and Orthogonal Grid Generation B89-052
Kinetic Energy Equations for the Average-Passage Equation System B89-038

Hypersonic Flow

Numerical Simulation of Flow Through a Two-Strut Scramjet Inlet B89-054
Modular Analysis of Scramjet Flowfields B89-028

Inlet, Nozzle, Diffusor, and Channel Flows

Aerothermochemical Analysis of Carbon-Carbon Nozzle Regression in Solid-Propellant Rocket Motors B89-103
Experimental Study of a Confined Jet Thrust Vector Control Nozzle B89-093
Theoretical Evaluation of Laser-Sustained Plasma Thruster Performance B89-090
Experimental Investigation of Shock Wave/Boundary-Layer Interactions in an Annular Duct B89-055
Swirling Flows in an Annular-to-Rectangular Transition Section B89-053
Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction; Part II--Results B89-050
Propagation of Weak Compression Waves in Nonuniform Channel Flows B89-025
Correlation of Nozzle Performance Degradation Due to Swirl B89-020
Navier-Stokes Solutions for Mixed Compression Axisymmetric Inlet Flow with Terminal Shock B89-001

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Experimental Study of a Confined Jet Thrust Vector Control Nozzle B89-093
Acoustic-Vortex Interactions and Low-Frequency Oscillations in Axisymmetric Combustors B89-027
Vaporization Behavior of Turbulent Polydisperse and "Equivalent" Monodisperse Sprays B89-024

Multiphase Flows

Simulation of Fundamental Atomization Mechanisms in Fuel Sprays B89-100
Alternative Fuel Spray Behavior B89-063
Magnetohydrodynamic Heat Transfer in Two-Phase Flow with Temperature-Dependent Transport Properties B89-058
Vaporization Behavior of Turbulent Polydisperse and "Equivalent" Monodisperse Sprays B89-024

Plasmadynamics and MHD

Electrical Nonuniformities in Commercial-Scale Slagging Magnetohydrodynamic Channels B89-113
Conjugate Heat Transfer at a Wall With Nonuniform Properties B89-096
Dimensionless Relations for Predicting Arc Size in a Generator B89-061
Experiments with a Radial Outflow Disk Generator B89-057
Absorption Cross-Section Data for Potassium Doublet Under MHD Conditions B89-040
Electrical Characteristics of a Noble Gas Diagonal MHD Channel B89-037
Operating Characteristics of a Hydrogen-Argon Plasma Torch for Supersonic Combustion Applications B89-021
Numerical Modeling of the Flow Discharge in MPD Thrusters B89-009

Reacting Flows and Combustion

Navier-Stokes Analysis of Solid Propellant Rocket Motor Internal Flows B89-102
Space Shuttle Solid Rocket Motor Aft-End Internal Flows B89-101
Application of Compound Compressible Flow to Nonuniformities in Hypersonic Propulsion Systems B89-098
Combustion Enhancement by Axial Vortices B89-087
Autoignition of H_2/Air/NO_x Mixtures: The Effect of Temperature and Pressure B89-080
Advanced Turbofan Engine Combustion System Design and Test Verification B89-079
Hypersonic Vehicle Propulsion: A Computational Fluid Dynamics Application Case Study B89-078
Efficient Computational Tool for Ramjet Combustor Research B89-069
Computational Investigation of Oblique Detonation Ramjet-in-Tube Concepts B89-044
Study of Combustion Processes of Single-Perforated Stick Propellants B89-042
Modular Analysis of Scramjet Flowfields B89-028
Numerical Predictions of a Rearward-Facing-Step Flow in a Supersonic Combustor B89-026
Computation of Diffusion and Premixed Flames Rolled up in Vortex Structures B89-022

Shock Waves and Detonations

Numerical Simulations of Oblique Detonations in Supersonic Combustion Chambers B89-077
Computational Investigation of Oblique Detonation Ramjet-in-Tube Concepts B89-044
Propagation of Weak Compression Waves in Nonuniform Channel Flows B89-025

Supersonic Flow

Application of Compound Compressible Flow to Nonuniformities in Hypersonic Propulsion Systems B89-098
Experimental Study of a Confined Jet Thrust Vector Control Nozzle B89-093
Noncircular Jet Dynamics in Supersonic Combustion B89-084
Mixing Augmentation Technique for Hypervelocity Scramjets B89-082
Numerical Simulation of Flow Through a Two-Strut Scramjet Inlet B89-054
Numerical Predictions of a Rearward-Facing-Step Flow in a Supersonic Combustor B89-026
Performance of Laser Doppler Velocimeter with Polydisperse Seed Particles in High-Speed Flows B89-004

Transonic Flow

Transonic Cascade Flow Solved by the Combined Shock-Capturing and Shock-Fitting Method B89-076
Performance of Laser Doppler Velocimeter with Polydisperse Seed Particles in High-Speed Flows B89-004

Unsteady Flows

Mixing Augmentation Technique for Hypervelocity Scramjets B89-082
J85 Surge Transient Simulation B89-060
Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction; Part I--Methodology B89-049
Effects of Inlet Pressure Fluctuations on Axial Flow Compressors B89-012
Suppression of Combustion Instabilities by Active Control B89-003

Vortices

Combustion Enhancement by Axial Vortices B89-087

Guidance, Control, and Dynamics Technology

Computer Science

Conformal Mapping and Orthogonal Grid Generation B89-052

Engine Control

Electromagnetic Emission Experiences Using Electric Propulsion Systems B89-085
Nonequilibrium Model for Hydrogen Combustion in Supersonic Flow B89-083
Application of a Fuzzy Controller in the Fuel System of a Turbojet Engine B89-059
Active Suppression of Aerodynamic Instabilities in Turbomachines B89-032

Software Technology

Electrical Nonuniformities in Commercial-Scale Slagging Magnetohydrodynamic Channels B89-113
Computerized Life and Reliability Modeling for Turboprop Transmissions B89-095

Interdisciplinary Topics

Analytical and Numerical Methods

Vibration Analysis of Rotor Systems Using Reduced Subsystem Models B89-094
Finite Element Electrical Model for Diagonally Connected MHD Generators B89-034

Lasers and Laser Applications

Nuclear-Powered Space Debris Sweeper B89-091

Reliability, Maintainability, and Logistics Support

Computerized Life and Reliability Modeling for Turboprop Transmissions B89-095
Probabilistic Structural Analysis Methods for Improving Space Shuttle Engine Reliability B89-068

Research Facilities and Instrumentation

Getter-Pumped Test Facility for High-Power, Long-Pulse MPD Thrusters B89-007

Launch Vehicle and Missile (LV/M) Technology

Launch Vehicle and Sounding Rocket Systems

Flight Thrust Imbalance of Space Shuttle SRM Boosters B89-039

Mission Studies and Economics

Electric Propulsion for Orbit Transfer: A Case Study B89-071

Propulsion and Propellant Systems

Quasisteady Magnetoplasmadynamic Thruster with Applied Magnetic Fields for Near-Earth Missions B89-109
Surface Composition of Solid-Rocket Exhausted Aluminum Oxide Particles B89-104
Ramjet Development Testing: Which Way is Right? B89-089
Structural Tailoring of Space Shuttle Main Engine Turbopump Blades SSME/STAEBL B89-067
Computational Investigation of Oblique Detonation Ramjet-in-Tube Concepts B89-044
Flight Thrust Imbalance of Space Shuttle SRM Boosters B89-039
Recent Concepts in Missions to Mars: Extraterrestrial Processes B89-029
Getter-Pumped Test Facility for High-Power, Long-Pulse MPD Thrusters B89-007

Testing, Flight and Ground

Ramjet Development Testing: Which Way is Right? B89-089

Vibration

Vibration Analysis of Rotor Systems Using Reduced Subsystem Models B89-094

Propulsion

Airbreathing Propulsion

Effect on Environmental Particles on a Radial Compressor B89-112
Noninterference Blade-Vibration Measurement System for Gas Turbine Engines B89-111
Calculation of Flowfields in Side-Inlet Ramjet Combustors with an Algebraic Reynolds Stress Model B89-106
Numerical Study of Turbulent Reacting Flows in Solid-Propellant Ducted Rocket Combustors B89-105
Simulation of Fundamental Atomization Mechanisms in Fuel Sprays B89-100
Ramjet Development Testing: Which Way is Right? B89-089
Combustion Enhancement by Axial Vortices B89-087
Plasma Torch Igniter for Scramjets B89-086
Advanced Turbofan Engine Combustion System Design and Test Verification B89-079
Hypersonic Vehicle Propulsion: A Computational Fluid Dynamics Application Case Study B89-078
Numerical Simulations of Oblique Detonations in Supersonic Combustion Chambers B89-077
Improved Compressor Performance Using Recessed Clearance (Trenches) B89-075
Navier-Stokes Computations of Two- and Three-Dimensional Cascade Flowfields B89-051
Investigation of a Small Solid Fuel Ramjet Combustor B89-043
Influence of Vane/Blade Spacing and Injection on Stage Heat-Flux Distributions B89-033
Active Suppression of Aerodynamic Instabilities in Turbomachines B89-032
Modular Analysis of Scramjet Flowfields B89-028
Nozzle Design and Manufacturing Influences on Fuel Spray Circumferential Uniformity B89-023
STOVL Engine/Airframe Integration B89-019
Bidirectional Tapered Roller Thrust Bearing for Gas Turbine Engines B89-018
Contingency Power for Small Turboshaft Engines B89-016
Rotor-Wake Influence on Axial-Compressor-Stator Boundary Layers B89-014
Freestream Turbulence Effect on Turbine Airfoil Heat Transfer B89-013
Redistribution of an Inlet Temperature Distortion in an Axial Flow Turbine Stage B89-011
Geometric Effects on the Combustion in Solid Fuel Ramjets B89-006

Combustion and Combustor Designs

Calculation of Flowfields in Side-Inlet Ramjet Combustors with an Algebraic Reynolds Stress Model B89-106
Navier-Stokes Analysis of Solid Propellant Rocket Motor Internal Flows B89-102
Space Shuttle Solid Rocket Motor Aft-End Internal Flows B89-101
Advanced Turbofan Engine Combustion System Design and Test Verification B89-079
Hypersonic Vehicle Propulsion: A Computational Fluid Dynamics Application Case Study B89-078
Role of Aluminum-Magnesium Alloys in Humid Aging of Composite Solid Propellants B89-066
Burning Rate Temperature Sensitivity of HMX Propellants B89-065
Alternative Fuel Spray Behavior B89-063
Autoignition of H_2-Air: The Effect of NO_x Addition B89-062
Investigation of a Small Solid Fuel Ramjet Combustor B89-043
Combustor Air Flow Prediction Capability Comparing Several Turbulence Models B89-036
Acoustic-Vortex Interactions and Low-Frequency Oscillations in Axisymmetric Combustors B89-027
Vaporization Behavior of Turbulent Polydisperse and "Equivalent" Monodisperse Sprays B89-024
Nozzle Design and Manufacturing Influences on Fuel Spray Circumferential Uniformity B89-023
Computation of Diffusion and Premixed Flames Rolled up in Vortex Structures B89-022
Acoustic Characterization Relevant to Gas Turbine Augmentors B89-017
Geometric Effects on the Combustion in Solid Fuel Ramjets B89-006
Effect of Geometry on Ignition of a Reactive Solid: Acute Angles B89-005
Performance of Laser Doppler Velocimeter with Polydisperse Seed Particles in High-Speed Flows B89-004
Suppression of Combustion Instabilities by Active Control B89-003
Degradation Mechanisms of n-Dodecane with Sulfur and Nitrogen Dopants During Thermal Stressing B89-002

Combustion Instability

Oscillatory Vaporization of Fuel Droplets in an Unstable Combustor B89-041
Computation of Diffusion and Premixed Flames Rolled up in Vortex Structures B89-022
Acoustic Characterization Relevant to Gas Turbine Augmentors B89-017
Suppression of Combustion Instabilities by Active Control B89-003

Droplet Characterization

Development and Application of a Surrogate Distillate Fuel B89-064
Oscillatory Vaporization of Fuel Droplets in an Unstable Combustor B89-041

Ducted Rocket Engines

Numerical Study of Turbulent Reacting Flows in Solid-Propellant Ducted Rocket Combustors B89-105

Electric and Advanced Space Propulsion

Quasisteady Magnetoplasmadynamic Thruster with Applied Magnetic Fields for Near-Earth Missions B89-109

Review of Research and Development on the Microwave Electrothermal Thruster B89-108
Space Station Freedom Resistojet System Study B89-107
Considerations About the Specific Impulse of an Antimatter-Based Thermal Engine B89-092
Theoretical Evaluation of Laser-Sustained Plasma Thruster Performance B89-090
Electromagnetic Emission Experiences Using Electric Propulsion Systems B89-085
Effect of Ambient Pressure on the Performance of a Resistojet B89-072
Electric Propulsion for Orbit Transfer: A Case Study B89-071
Xenon Ion Propulsion Subsystem B89-070
Steady-State Permanent Magnet Magnetoplasmadynamic Thruster B89-048
Antiproton-Based Propulsion Concepts and the Potential Impact on a Manned Mars Mission B89-047
Langmuir Probe Measurements of an Arcjet Exhaust B89-046
Comparison Between Laser-Supported Detonation and Blast Waves for Laser Propulsion B89-045
Performance Characterizations of an Engineering Model Multipropellant Resistojet B89-031
Model for Computing Volume-Averaged Plasma Properties in Electron-Bombardment Ion Thrusters B89-030
Computer-Controlled Xenon Ion Engine Operation B89-008
Getter-Pumped Test Facility for High-Power, Long-Pulse MPD Thrusters B89-007

Engine Performance

Flight Test of the F100-PW-220 Engine in the F-16 B89-097
Considerations About the Specific Impulse of an Antimatter-Based Thermal Engine B89-092
Improved Compressor Performance Using Recessed Clearance (Trenches) B89-075
Probabilistic Structural Analysis Methods for Improving Space Shuttle Engine Reliability B89-068
Bidirectional Tapered Roller Thrust Bearing for Gas Turbine Engines B89-018
Contingency Power for Small Turboshaft Engines B89-016

Environmental Effects

Effect on Environmental Particles on a Radial Compressor B89-112
Surface Composition of Solid-Rocket Exhausted Aluminum Oxide Particles B89-104

Fuels and Propellants, Properties of

Degradation Kinetics of Polyol B89-088
Burning Rate Temperature Sensitivity of HMX Propellants B89-065
Development and Application of a Surrogate Distillate Fuel B89-064
Recent Concepts in Missions to Mars: Extraterrestrial Processes B89-029
Degradation Mechanisms of n-Dodecane with Sulfur and Nitrogen Dopants During Thermal Stressing B89-002

Ignition and Ignitor Design

Plasma Torch Igniter for Scramjets B89-086
Autoignition of H_2/Air/NO_x Mixtures: The Effect of Temperature and Pressure B89-080
Autoignition of H_2-Air: The Effect of NO_x Addition B89-062
Operating Characteristics of a Hydrogen-Argon Plasma Torch for Supersonic Combustion Applications B89-021
Effect of Geometry on Ignition of a Reactive Solid: Acute Angles B89-005

Liquid Rocket Engines and Missile Systems

Calculation of Flowfields in Side-Inlet Ramjet Combustors with an Algebraic Reynolds Stress Model B89-106
Efficient Computational Tool for Ramjet Combustor Research B89-069

Propulsion Hazards

Effect on Environmental Particles on a Radial Compressor B89-112

Ramjet Combustors

Numerical Study of Turbulent Reacting Flows in Solid-Propellant Ducted Rocket Combustors B89-105

Ramjets and Srramjets

Application of Compound Compressible Flow to Nonuniformities in Hypersonic Propulsion Systems B89-098
Plasma Torch Igniter for Scramjets B89-086
Noncircular Jet Dynamics in Supersonic Combustion B89-084

Solid Rocket Motors and Missile Systems

Aerothermochemical Analysis of Carbon-Carbon Nozzle Regression in Solid-Propellant Rocket Motors B89-103
Navier-Stokes Analysis of Solid Propellant Rocket Motor Internal Flows B89-102
Space Shuttle Solid Rocket Motor Aft-End Internal Flows B89-101
Flight Thrust Imbalance of Space Shuttle SRM Boosters B89-039

Supersonic Combustion

Autoignition of H_2/Air/NO_x Mixtures: The Effect of Temperature and Pressure B89-080

Transient Combustion and Detonation

Numerical Simulations of Oblique Detonations in Supersonic Combustion Chambers B89-077

Space Technology

Mission Design and Analysis

Earth-to-Satellite Microwave Power Transmission B89-115
Electric Propulsion for Orbit Transfer: A Case Study B89-071
Recent Concepts in Missions to Mars: Extraterrestrial Processes B89-029

Spacecraft Power

Earth-to-Satellite Microwave Power Transmission B89-115
Solar Dynamic Power for the Space Station B89-114
Xenon Ion Propulsion Subsystem B89-070

Spacecraft Propulsion System Integration

Quasisteady Magnetoplasmadynamic Thruster with Applied Magnetic Fields for Near-Earth Missions B89-109
Space Station Freedom Resistojet System Study B89-107
Effect of Ambient Pressure on the Performance of a Resistojet B89-072
Xenon Ion Propulsion Subsystem B89-070

Spacecraft Radiation Protection

Solar Dynamic Power for the Space Station B89-114

Spacecraft Test and Evaluation

Performance Characterizations of an Engineering Model Multipropellant Resistojet B89-031

Structural Mechanics and Materials

Aeroelasticity and Control

Shaft Flexibility Effects on Aeroelastic Stability of a Rotating Bladed Disk B89-110

Structural Design

Structural Tailoring of Space Shuttle Main Engine Turbopump Blades SSME/STAEBL B89-067

Structural Durability (including Fatigue and Fracture, and Environmental Degradation)

Probabilistic Structural Analysis Methods for Improving Space Shuttle Engine Reliability B89-068

Structural Dynamics and Characterization

Shaft Flexibility Effects on Aeroelastic Stability of a Rotating Bladed Disk B89-110
Study of Combustion Processes of Single-Perforated Stick Propellants B89-042

Thermal Effects

Structural Tailoring of Space Shuttle Main Engine Turbopump Blades SSME/STAEBL B89-067
Degradation Mechanisms of n-Dodecane with Sulfur and Nitrogen Dopants During Thermal Stressing B89-002

Thermophysics and Heat Transfer

Ablation, Pyrolysis, Thermal Decomposition and Degradation

Aerothermochemical Analysis of Carbon-Carbon Nozzle Regression in Solid-Propellant Rocket Motors B89-103
Degradation Kinetics of Polyol B89-088

Nonintrusive Diagnostics

Multi-Stage Compressor Airfoil Aerodynamics: Part II–Airfoil Boundary-Layer Analysis B89-074
Multi-Stage Compressor Airfoil Aerodynamics: Part I-Airfoil Potential Flow Analysis B89-073

Thermal Modeling and Analysis

Magnetchydrodynamic Heat Transfer in Two-Phase Flow with Temperature-Dependent Transport Properties B89-058

Author Index

Abe, K., B89-045
Abu-Hijleh, B. A./K., B89-004
Adamczyk, J. J., B89-038
Adelman, H. G., B89-077
Aggarwal, S. K., B89-024
Anderson, N. E., B89-015
Arakawa, Y., B89-048
Archer, J. S., B89-114
Ash, R., B89-029
Asheim, J. P., B89-063
Asmussen, J., B89-108
Auweter-Kurtz, M., B89-009
Barber, T. J., B89-078
Barbi, E., B89-021
Baumeister, K. J., B89-010
Beacher, B. F., B89-075
Beattie, J. R., B89-030, B89-070
Ben-Wei, L., B89-059
Bencze, D. P., B89-001
Berger, B., B89-016
Biesiadny, T. J., B89-016
Billig, F. S., B89-028
Bityurin, V. A., B89-096
Bocharov, A. N., B89-096
Bogdanoff, D. W., B89-044
Borghi, C. A., B89-037
Borie, V., B89-103
Boris, J. P., B89-027
Bourienne, F., B89-003
Boyce, L., B89-068
Brackett, D. C., B89-044
Brophy, J. R., B89-008
Brulard, J., B89-103
Bucknell, R. L., B89-019
Burgin, K. C., B89-091
Bushnell, D. M., B89-082
Butler, T. L., B89-011
Cambier, J., B89-077
Candel, S., B89-003
Candel, S. M., B89-022
Carney, L. M., B89-046, B89-085
Cernansky, N. P., B89-002
Chamis, C. C., B89-035, B89-067
Chapman, R., B89-108
Char, J. M., B89-042
Cherng, D. L., B89-105
Chi-Hua, W., B89-059
Chi, R. M., B89-111
Childre, M. T., B89-097
Childs, R. E., B89-100
Cho, M., B89-045
Chupp, R. E., B89-033
Chyu, W. J., B89-001
Clark, D. A., B89-016
Cofer, W. R., III, B89-104
Cohen, R. S., B89-002
Correa, S. M., B89-083
Cox, G. B., Jr., B89-078
Coy, J. J., B89-095
Daniel, V. W., B89-034
Das, D. K., B89-012
Deevi, S., B89-066
DeWitt, K. J., B89-072
Diamant, E. S., B89-114
Dring, R. P., B89-011, B89-073, B89-074
Dunn, M. G., B89-033
Dutton, J. C., B89-020
Eggers, J. M., B89-086
Epstein, A. H., B89-032
Esposito, E., B89-003
Eversman, W., B89-010
Fan, U., B89-094
Favin, S., B89-028
Filpus, J. W., B89-108
Foster, W. A., Jr., B89-039
Franke, M. E., B89-093
Gany, A., B89-006, B89-043
Gardner, J. H., B89-027
Gibeling, H. J., B89-102
Greitzer, E. M., B89-032
Guss, W. C., B89-007
Gutmark, E., B89-084, B89-087
Haag, T. W., B89-031
Hamed, A., B89-060, B89-112
Hansen, J. L., B89-014
Harada, N., B89-056
Hastings, D. E., B89-098
Hawley, M. C., B89-108
Hay, S. S., B89-031
Hermance, C. E., B89-005
Hoekstra, C., B89-108
Hoffert, M. I., B89-115
Howe, S. D., B89-047, B89-091
Hussaini, M. Y., B89-082
Hwang, Y. -H., B89-106
Ives, D. C., B89-052
Jeng, S., B89-090
Johnson, J. D., B89-079
Johnson, R. W., B89-038
Joshi, N. K., B89-040
Joslyn, H. D., B89-011, B89-073, B89-074
Kadiramangalam, M., B89-115
Kagaya, Y., B89-109
Kailasanath, K., B89-027
Kawamura, T., B89-001
Keefer, D., B89-090
Keith, T. G., B89-046
Keith, T. G., Jr., B89-072
Key, L. E., B89-104
Khader, N., B89-110
Kikuchi, K., B89-051
Kishore, K., B89-066
Klann, G. A., B89-016
Knowles, S. C., B89-085
Krazinski, J. L., B89-069
Kreider, G., B89-018
Kubota, N., B89-065
Kumar, A., B89-054, B89-082
Kuo, K. K., B89-042, B89-105
Kurtz, H. L., B89-009
Lang, W., B89-003
Laster, W. R., B89-062, B89-080
Laverdant, A. M., B89-022
Lawton, E., B89-029
LeClaire, R. J., Jr., B89-091
Lenertz, J. E., B89-079
Lengellé, G., B89-103
Lenglade, R., B89-018
Levy, Y., B89-006, B89-043
Lewicki, D. G., B89-095
Lewis, M. J., B89-098
Liou, T. -M., B89-106
Loewy, R., B89-110
Lohrasbi, J., B89-058
Lounsbury, R. J., B89-013
Lyubimov, G. A., B89-096
Mahan, J. R., B89-021
Mani, R., B89-083
Mansour, N. N., B89-100
Manzella, D. H., B89-072
Marble, F. E., B89-053
Marchman, J. F., III, B89-101
Martinelli, R. M., B89-070
Marty, S. M., B89-057
Mathur, G. N., B89-088
Matossian, J. N., B89-030, B89-070
McCoy, K. D., B89-097
McDonald, H., B89-102
McDonell, V. G., B89-064
Menees, G. P., B89-077
Messerle, H. K., B89-057
Metzger, J. D., B89-047, B89-091
Miller, G., B89-115
Morin, T. J., B89-108
Morren, W. E., B89-031
Myer, R. C., B89-007
Nakahashi, K., B89-051
Nejad, A. S., B89-069
Ni, W., B89-076
Nigam, D., B89-088
Nightingale, L., B89-015
Noah, S. T., B89-094
Northam, G. B., B89-026, B89-086
Nozaki, O., B89-051
O'Brien, W. F., B89-021, B89-086
Okiishi, T. H., B89-014
Okuhara, H., B89-065
Oran, E. S., B89-027
Parr, D. M., B89-087
Parr, T. P., B89-087
Pecchioli, M., B89-092
Pech, R., B89-018
Penko, P. F., B89-072
Penn, J. P., B89-071
Peters, J. E., B89-063
Poeschel, R. L., B89-070
Poinsot, T., B89-003
Porzio, A. J., B89-093
Post, R. S., B89-007
Radil, K. C., B89-095
Rai, M. M., B89-049, B89-050
Raj, H., B89-088
Ramohalli, K., B89-029
Reddy, K. T., B89-002
Rhode, D. L., B89-036
Rogers, R. C., B89-026
Rogers, W. P., B89-070
Rosa, R. J., B89-061
Rosfjord, T. J., B89-023
Rubinstein, R., B89-067
Russell, S., B89-023
Sabnis, J. S., B89-102
Sajben, M., B89-025
Samimy, M., B89-004
Samuelsen, G. S., B89-064
Sanborn, J. W., B89-079
Sargent, W. H., B89-101
Sasoh, A., B89-048
Savage, M., B89-095
Schadow, K. C., B89-084, B89-087
Schetz, J. A., B89-028
Schrade, H. O., B89-009
Scott, J. D., B89-113
Sforzini, R. H., B89-039
Sharma, O. P., B89-011
Shioda, S., B89-056
Shu, P. H., B89-039
Shuen, J., B89-024
Simpson, S. W., B89-057, B89-113
Sirignano, W. A., B89-041
Sivasegaram, S., B89-017
Sleziona, P. C., B89-009
Smith, R. A., B89-064
Sobota, T. H., B89-053
Sojka, P. E., B89-062, B89-080
Sovey, J. S., B89-031, B89-085
Spenable, J. M., B89-071
Stockbridge, R. D., B89-055
Stowers, S. T., B89-036
Sugiyama, Y., B89-060
Tabakoff, W., B89-060, B89-112
Tacina, R. R., B89-107
Tahara, H., B89-109
Tamura, A., B89-051
Thompson, B. E., B89-017
Tong, A. Y., B89-041
Torti, R. P., B89-007
Trippi, A., B89-012
Uenishi, K., B89-026
Vanka, S. P., B89-069
Verneker, V. R. P., B89-066
Vorsteveld, L. G., B89-005
Vulpetti, G., B89-092
Waesche, R. H. W., B89-101
Wagner, D. A., B89-015
Wagner, T. C., B89-021, B89-086
Watkins, W. B., B89-111
Webster, F. F., B89-089
Whitehair, S., B89-108
Whitelaw, J. H., B89-017
Williams, J. E. F., B89-032
Wilson, K. J., B89-084, B89-087
Winstead, E. L., B89-104
Wisler, D. C., B89-075
Wood, C. P., B89-064
Xu, J., B89-076
Yamasaki, H., B89-056
Yang, V., B89-105
Yoshikawa, T., B89-109
Yun-Hua, X., B89-059
Zacharias, R. M., B89-052
Zerkle, R. D., B89-013
Zhelnin, V. A., B89-096
Ziegler, W., B89-115
Zvuloni, R., B89-006, B89-043